fish, and for which I used my hat as a reflector, had the globe smashed almost instantly by a billfish which rushed it from a very considerable distance. I had this happen once afterwards when the beak of the billfish, or, as the Cubans call him, the "Pez Agujon," broke off in the soft wood of the combing. I was not surprised by what I found, for I had always supposed the beak had belonged to a Belone or Tylosurus and *not* to a Hemiramph. Never once have I seen a half-beak leave the water in this characteristic way, and for that reason have been interested in Mr. Nichols' observation.

He speaks of the relationship of his needlefish with the flying fishes, which is significant, and it seems to me that the most interesting point is that there is perhaps this tremendous difference between the habits of these two families of bill or needlefishes, both of which are very near to the real flyers, taxonomically. *Belone,* more vigorous, more strongly muscled, and more powerfully built, rushes regularly above the surface in this characteristic manner, while the Hemiramphs, although characteristically feeding at the surface, shy and active as they are, in my experience, never attempt to leave the water to escape their foes. I have often discussed this with my dear old friend, Professor Carlos de la Torre of Havana, and he agrees with the observation, although I do not know that I have ever actually pressed him for an answer as to whether he had ever seen Hemiramphs leave the water or not. We have certainly never seen this when we were together.

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THE ADULT OF RAJA MONTEREYENSIS GILBERT.

In the proceedings of the U. S. National Museum, (Vol. 48, 1915, p. 307), Dr. Gilbert described

a new species of skate, *Raja montereyensis.* His specimen was taken off Santa Cruz, California, in from 26 to 28 fathoms of water. It was a young female under 8 inches in length, and was too small to show many of the adult characters. Consequently the appearance of what seems evident is the adult of this form is of considerable interest. This is a male skate, also taken off Santa Cruz in about 50 fathoms of water by the paranzella-net fishermen. It differs considerably in some respects from the type, but the differences are no greater than exist between the young and adult stages of other skates.

It is possibly not a rare fish on our coast, for the fishermen at once recognized it as the "rock skate," stating that of all the skates, they preferred this to eat. They may, however, have confused it with *Raja stellulata,* which is known to be rather common in deep water, and which resembles this species in outline of body and in being everywhere rough with prickles.

I may here thank Mr. W. W. Curtner, my erstwhile assistant, who secured this specimen for me.

The entire length is 24 inches and the width 16½. The outline of the front of the disk is undulating, being convex at each side of the snout and towards the angle of the pectoral, while about midway between, it is concave. A straight line drawn between the tip of the snout and the outer pectoral angle is included within the margin of the disk. In *Raja rhina, R. binoculata,* and *R. inornata* such a line passes outside of the outline. The rostral cartilages are strong (thus differing from those of *Raja stellulata*) and meet close to their tips, but they do not quite reach to the tip of the snout. The width of the interorbital cartilage is slightly less than half the length of the snout, while the interspiracle width is almost equal to the interorbital width and the width of one eye in addition. The width of the mouth is contained

1⅓ times in the distance from the tip of the snout to the tip of the lower jaw. The width of the disk is equal to twice the distance from the posterior margin of the eye to the posterior union of the pectoral with the body. The latter point is midway of the entire length.

The upper surface of the disk is everywhere covered with stellate prickles, except at the base of the ventrals and a small area anterior to them. They are very sparsely spaced at the middle of the pectorals, and are the most numerous along the back, interorbital space, and snout, where they are slightly enlarged. A band of considerably enlarged spines are along the front of the disk. The usual inclined spines of the male are near the angle of the pectoral, and consist of a single row of 8 or 9. Two spines remain on the inner orbital rim of those that are conspicuous in the young. The evenly spaced, definite row of enlarged spines that were along the back of the type have given place to a very irregular row, uneven in size and position, with considerable spaces between them at the front. An irregular row of similar spines is at each side of the tail. Two spines are between the dorsals, which are rough with fine spinules. The under side of the snout and a small area at each side of it is rough with prickles.

The claspers are well developed and extend about half their length beyond the edge of the ventrals, proving that Dr. Gilbert's conjecture that the type was the young of a small species was correct.

Color, slaty brown with slight indications of darker blotches. Dusky spots make two or three obscure bars across the interorbital region and base of the snout just in front of the eyes. A few similar spots on each side of the snout at the edge. An ocellated spot occupies a lighter area at the middle of the pectoral base. This has a dark center and a surrounding ring of broken spots. A short distance be-

hind the ocellated spot is a small, milk-white spot as described for the type.

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NOTES ON THE MUHLENBERG'S TURTLE.

In the April (1917) issue of COPEIA, Dr. H. L. Babcock refers to a new record at Newport, R. I., as the northern limit of distribution. Quite obviously his reference to "southern New York" like that of Ditmars ('07, p. 51) must mean in the vicinity of New York City, and not the southern tier of counties of central and western New York State. Like Dr. Babcock, I can little believe his specimens escaped animals and would not be surprised to find this species even farther north in N. E. or west into southern Ontario in the light of its northern limit in New York State.

In central New York we have formerly recorded this species as local both at Ithaca and near Geneva. At Ithaca we have found it in only one small meadow—an alder swamp with an undergrowth of *Caltha palustris,* etc.—but this area was originally sphagnaceous and now has a few remains of this floral association. This may account for the sporadic occurrence of these creatures here, and no doubt this is a vanishing colony.

In 1877, Mr. C. Atwood brought Dr. Burt G. Wilder a specimen of the Muhlenberg's turtle captured June 15. Dr. Wilder's notes gave the locality as "Buttermilk ravine" and he received the turtle on July. 5. It was a female which had laid one egg in water, June 20, but this was broken. Forty days later, July 30, it laid another in sand in captivity and had one other in its oviduct to be laid. The laid (No. 154) egg was 30 mm. x 16 mm. in size while the ovi-